**Grade 12 Biology Diagnostic: Homeostasis**

*Please answer the following questions to the best of your ability.*

*If you are unsure, you are encouraged to at least write what you think you know.*

*Remember, this is not graded, it is a diagnostic tool for the purpose of planning this upcoming unit! ☺*

**MULTIPLE CHOICE**

1.) **The organization of neurons that enable you to react rapidly and involuntarily in times of danger is called:**

a.) A sensory pathway

b.) Positive feedback loop

c.) The central nervous system

d.) A reflex arc

e.) The autonomic nervous system

2.) **Which describes the potential difference across the membrane in a neuron that is not active:**

a.) resting membrane potential

b.) action potential

c.) saltatory conduction model

d.) Sodium/Potassium pump

e.) Refractory period

3.) **Suppose a person is relaxing in front of the t.v. after eating a large meal. Which component of the autonomic nervous system is activated when the body is calm and at rest?**

a.) Central nervous system

b.) Peripheral nervous system

c.) Somatic nervous system

d.) Sympathetic nervous system

e.) Parasympathetic nervous system

4.) **Which hormone stimulates the distal tubule and the collecting ducts in the kidney to increase the absorption of sodium into the bloodstream?**

a.) the adrenocorticotrophic hormone (ACTH)

b.) cortisol

c.) Glucagon

d.) Aldostorone

e.) Calcitriol

5.) **In females, follicle stimulating hormone (FSH) and luteinizing hormone (LH) act on the ovaries to produce which two hormones?**

a.) testosterone and inhibin

b.) insulin and glucagon

c.) gonadotrophin releasing hormone and adrenocorticotrophic hormone

d.) erythropoietin and calcitriol

e.) estrogren and progesterone

6.) **Which substance is not normally found in the filtrate inside Bowman’s capsule?**

a.) protein

b.) Amino Acids

c.) Glucose

d.) Sodium Ions

e.) Water

7.) **Which structure is correctly matched to its function**

a.) Bowman’s capsule – tubular reabsorption

b.) Glomerulus – tubular secretion

c.) Collecting duct – tubular secretion

d.) Glomerulus – filtration

e.) Bowman’s capsule – water reabsorption

**SHORT ANSWER**

8.) **Describe the hormonal response that is involved in a short term response to a stressfully situation such as being surprised by a fire alarm. What is the response called?**

**9.) List three hormones that are produced by the adrenal cortex. Compare and contrast the function of these hormones and their effects on the body.**

**10.) Clearly distinguish among the following three processes involved in the formation of urine: filtration, reabsorption, and secretion**

**MATCHING**

**11.) Which of these hormones – estrogren, GnRH, progesterone, FSH, LH – is the correct match for each of the following descriptions**

a.) Secreted by the follicular cells

b.) Stimulates maturing of females sex organs

c.) Secretd by the corpus luteum

d.) stimulates the development and function of the corpus luteum

e.) Promotes thickening of the endometrium

f.) Stimulates development of ovarian follicles

g.) Inhibits release of GnRH secretions in high concentrations

h.) Maintains the uterine lining during a pregnancy